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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,221	09/21/2001	Barend Johannes De Klerk	U 013650-0	5855
140	7590	05/05/2004	EXAMINER KERNS, KEVIN P	
LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			ART UNIT 1725	PAPER NUMBER
DATE MAILED: 05/05/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/960,221	<b>Applicant(s)</b> DE KLERK, BAREND JOHANNES	
	<b>Examiner</b> Kevin P. Kerns	<b>Art Unit</b> 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 6-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-28 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/5/01</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group Ia (claims 1-5) in the paper received on April 19, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in South Africa on April 14, 1999. It is noted, however, that the applicant has not filed a certified copy of the South African application as required by 35 U.S.C. 119(b). Also, the applicant has not filed a copy of the PCT (WO) document of PCT/IB00/00449, which has an international filing date of April 10, 2000.

### ***Specification***

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

4. The disclosure is objected to because of the following informalities: on page 2, line 12, "D2" should be replaced with a specific patent or application number.

Throughout the specification, decimals should be changed to be written with periods rather than commas. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagamura et al. (US 3,645,700).

Nagamura et al. disclose an apparatus for fluidized-bed reactions, in which the apparatus includes metal or nonmetal circumferentially spaced projections of various shapes at calculated intervals (including equidistantly spaced) in the horizontal plane of the internal annular sidewall of the cylindrical process vessel, resulting in a process that includes substantially reduced wear from erosion due to impinged whirling solid particles that strike the sidewall and/or projections at various angles while being entrained in a generally vertically flowing fluid, with the projections defining bays/pockets between adjacent projections and between each projection and the internal sidewall, in order to trap/suspend solid particles and hence reduce erosion of the sidewall of the vessel (abstract; column 1, lines 5-12; column 2, lines 18-45 and 64-75; column 3, line 1 through column 9, line 26; and Figures 1 and 2).

7. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Bonn et al. (US 4,407,355).

Bonn et al. disclose a method and apparatus for decreasing the heat and material exchange in the vicinity of walls of fluidized bed reactors, in which the method includes providing a cylindrical vessel with an internal annular sidewall having a plurality of components (projections) attached at their respective bases in an equidistant manner in a horizontal plane around the circumference of the vessel, such that a portion of the components are arranged at angles with respect to the generally vertically flowing fluid,

while trapping the intensively agitated (whirling) granulated solid entrained in the fluid within bays/pockets between adjacent components and between each component and the internal sidewall, resulting in reduced impingement velocity of the intensively agitated solid particles to reduce sidewall erosion (abstract; column 1, lines 8-18; column 2, lines 9-68; column 3, lines 1-68; column 4, lines 1-64; and Figure).

8. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Cogan (US 2,711,308).

Cogan discloses a grid tray contact column for the passage of atomized (whirling/agitated, but generally vertically flowing) fluent materials, including finely divided solids such as sand, a catalyst suspended in a gas, and corrosive/erosive materials, all of which are capable of causing erosion of contact surfaces, such that the method includes providing a vessel that includes a grid tray (14,19) forming a ledge and a plurality of key bricks 20 arranged circumferentially around the horizontal plane of the interior sidewall of the vessel, defining a plurality of bays/pockets between adjacent components and between each adjacent pair of key bricks, resulting in reduced impingement velocity of the atomized fluent materials to reduce erosion of the sidewall (column 1, lines 15-48 and 63-72; column 2, lines 1-75; column 3, lines 1-75; and Figures 1 and 2).

9. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by McCoy (US 5,239,945).

McCoy discloses an apparatus and method to reduce or eliminate combustor perimeter wall erosion in fluidized bed boilers or reactors, in which the method includes providing a tapering interior vessel wall with refractory (erosion preventing) plates 47 as projections that are angularly displaced along the reactor sidewall (creating bays/pockets therebetween) with respect to the vertical axis (perpendicular to the annular zone) of the fluidized bed reactor, such that the fluid contains high velocity entrained solid particles, and erosion of the perimeter walls caused by these solid particles would be reduced or eliminated (abstract; column 1, lines 6-16; column 5, lines 28-68; column 6, lines 1-40; column 7, lines 46-68; column 8, lines 1-68; column 9, lines 1-68; and Figures 6-12).

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Bornemann et al. (US 5,016,576).

Bornemann et al. disclose a fluidizing combustion chamber, in which the method includes providing a chamber with an annular cornice that traps solid particles that travel (whirl) inside the circulating fluidized bed, with collection of the particles on protruding ledge 17 preventing erosion from these trapped particles (abstract; column 1, lines 25-59; column 2, lines 3-49; and Figures 1-3).

### **Conclusion**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571)

Art Unit: 1725

272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin P. Kerns *Kevin Kerns 5/1/04*  
Examiner  
Art Unit 1725

KPK  
kpk  
May 1, 2004